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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,298	03/04/2004	Takahito Miyamoto	FEC 118	3151

23995 7590 01/12/2006

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/792,298

Applicant(s)

MIYAMOTO, TAKAHITO

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The two pending claims recite a photoreceptor (claim 2) and an apparatus containing a photoreceptor (claim 1). The photoreceptor is defined as being for use in an apparatus having a resolution of at least 1200 dpi, and the apparatus has such a resolution. The photoreceptor in each claim has a charge generation layer and a charge transport layer. The charge transport layer has a thickness of greater than 25 μm . The photoreceptor is also defined in relationship (1) by the product of the peripheral speed of the photoreceptor (V), the contact angle of the photoreceptor to pure water (A), and the thickness of the photoreceptor (T).

A photoreceptor is an article, which as seen in the claims, has certain layer components. An apparatus is defined by its structural components (see MPEP 2114 & 2115). The claims attempt to define the photoreceptor and apparatus based on the manner in which the photoreceptor is used, specifically by a relationship involving rotation of the photoreceptor. The movement of the photoreceptor does not provide a definite limitation to the claimed relationship because the peripheral speed of rotation can be arbitrarily chosen to any value desired. Because any value can be used for the peripheral speed, the artisan theoretically could find photoreceptors with set combinations of A and T that both fall in and outside the scope of the

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claims depending on how fast the photoreceptor is rotated. For example, Kawamura in US Patent 6,548,216 discloses a photoreceptor in Example 1 having a charge generation layer and a charge transport layer coated on an aluminum drum. The charge transport layer has a thickness of $30\text{ }\mu\text{m} \pm 1\text{ }\mu\text{m}$. The reference discloses a contact angle with pure water of 85° to 140° (col. 20, l. 16-36). Substituting these values into the relationship (1) gives:

$$V^{0.1} \times A \times T^{0.2} < 270$$

$$V^{0.1} \times 85 \times 30^{0.2} < 270$$

$$V^{0.1} \times 167.8 < 270$$

Solving for V, gives

$$V^{0.1} < 102.2$$

$$V < 1.2431 \times 10^{20} \text{ mm/sec}$$

Any peripheral rotation speed below 1.2431×10^{20} mm/sec would permit the photoreceptor to fall within the scope of the claims. Any peripheral speed at or above this value would not permit the photoreceptor to fall within the scope of the claims. Thus, the same photoreceptor can fall within and outside the scope of the claims depending on what speed the artisan later decides to rotate it. The claims are indefinite because they are dependent on an arbitrary manipulative step.

Further, if the claims are limited to the photoreceptor and the apparatus only when it is being rotated, then the claims are indefinite for the reasons given in MPEP 2173.05(p). As stated there, "A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C.

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112, second paragraph." The instant claims would be indefinite because they would only limit the photoreceptor and apparatus when the photoreceptor is being rotated (a method step).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawamura *et al.* in US Patent 6,548,216.

As noted above, Kawamura discloses a photoreceptor in Example 1 having a charge generation layer and a charge transport layer coated on an aluminum drum. The charge transport layer has a thickness of $30\ \mu\text{m} \pm 1\ \mu\text{m}$. The reference discloses a contact angle with pure water of 85° to 140° (col. 20, l. 16-36). Figure 6 shows the reference's photoreceptor in an image forming apparatus with processing components surrounding the photoreceptor (col. 30, l. 7 - col. 31, l. 12). The reference is specifically concerned with obtaining resolution of 1200 dpi and 2400 dpi (col. 2, l. 53-62).

Because Kawamura's photoreceptor has the requisite layers and charge transport layer thickness, as well as a water contact angle disclosed in the specification as effective (for example, see Tables 9 and 10 on page 13) and a resolution at the same dpi as the instant specification and claims, it appears that Kawamura identically discloses photoreceptors and

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imaging apparatuses within the scope of the claims. Furthermore, given the indefiniteness of the instant claims with respect to the process limitation (i.e., peripheral speed) the claims appear to include the photoreceptors of Kawamura for at least some speeds (see discussion under section 112, second paragraph, rejection above).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The applied art discloses various photoreceptors with charge transport layers having a thickness of greater than 25 μm . It appears that the applied Kawamura reference is closer to the claimed invention than the cited but unapplied art. However, this art will be reviewed again when the issues under section 112, second paragraph, are resolved.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'CRD', followed by a horizontal line extending to the right.

CHRISTOPHER RODEE
PRIMARY EXAMINER

cdr
5 January 2006